

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:223670 CAPLUS  
DN 128:286284  
ED Entered STN: 22 Apr 1998  
TI Transdermal delivery and accumulation of indomethacin in subcutaneous tissues in rats  
AU Mikulak, Stephen A.; Vängsness, C. Thomas; Nimni, Marcel E.  
CS Department of Surgery and Orthopaedics, School of Medicine, University of Southern California, Los Angeles, CA, 90033, USA  
SO Journal of Pharmacy and Pharmacology (1998), 50(2), 153-158  
CODEN: JPPMAB; ISSN: 0022-3573  
PB Royal Pharmaceutical Society of Great Britain  
DT Journal  
LA English  
CC 63-5 (Pharmaceuticals)  
Section cross-reference(s): 1  
AB Oral non-steroidal anti-inflammatory drugs (NSAIDs) are effective pharmacotherapy for a wide variety of painful, inflammatory disorders. Development of an efficient means of topical administration of NSAIDs could increase local soft-tissue and joint concns. while reducing systemic distribution of the drug, thereby reducing side-effects. We studied the effects of a novel topical penetration enhancer for lipophilic compds., a trans-phase delivery system (TPDS), a solution of benzyl alc., isopropanol and acetone, on the distribution of indomethacin in various tissues locally and remote from the site of application. We compared the TPDS with a 50:50 (volume/volume) mixture of propylene glycol and ethanol, a commonly used penetration enhancer, and with oral administration. The TPDS was significantly superior to the other approaches at achieving high local-tissue concns. in the vicinity of the site of application. In addition, comparison of these 2 carrier systems seems to clarify the different aqueous and hydrophobic pathways of drug penetration which emerge from various exptl. findings and theor. considerations. This non-aqueous solvent system, and benzyl alc. in particular, because of its unique physicochem. and solvating characteristics, might be able to deliver therapeutic levels of indomethacin to tissues close to the site of application in a safer and more effective manner than presently accepted forms of delivery.  
ST transdermal delivery indomethacin subcutaneous tissue  
IT Connective tissue  
    (s.c.; transdermal delivery and accumulation of indomethacin in s.c. tissues)  
IT Drug bioavailability  
    Kidney  
    Liver  
    (transdermal delivery and accumulation of indomethacin in s.c. tissues)  
IT Drug delivery systems  
    (transdermal; transdermal delivery and accumulation of indomethacin in s.c. tissues)  
IT 53-86-1, Indomethacin  
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
    (transdermal delivery and accumulation of indomethacin in s.c. tissues)  
IT 67-63-0, Isopropanol, biological studies 67-64-1, Acetone, biological studies 100-51-6, Benzyl alcohol, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
    (transdermal delivery and accumulation of indomethacin in s.c. tissues)  
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Boden, N; Biochemistry 1991, V30, P2146 CAPLUS  
(2) Borda, I; NSAIDs, A Profile of Adverse Effects 1992

- (3) Devos, F; J Pharm Pharmacol 1991, V43, P237 CAPLUS
- (4) Dohi, M; Chem Pharm Bull 1990, V38, P2877 CAPLUS
- (5) Doucet, O; Travaux Originaux Research Papers 1990
- (6) Duggan, D; Drug Metab Rev 1979, V9, P21 MEDLINE
- (7) Francoeur, M; Pharm Res 1990, V7, P621 CAPLUS
- (8) Fregnan, G; Pharmacology 1974, V11, P213 CAPLUS
- (9) Ginsberg, F; J Int Med Res 1991, V19, P131 MEDLINE
- (10) Golden, E; Curr Ther Res 1978, V24, P524
- (11) Guy, R; J Pharm Sci 1983, V72, P1375 CAPLUS
- (12) Heilman, R; Arthritis Rheum 1975, V18, P519 MEDLINE
- (13) Hiramatsu, Y; Arzneim Forsch 1990, V40, P1117 CAPLUS
- (14) Hori, M; Percutaneous Absorption 2nd Edn 1989, P40
- (15) Idson, B; Drug Cosmet Ind 1985, V137, P30
- (16) Illel, B; J Pharm Sci 1991, V80, P424 CAPLUS
- (17) Jimbo, Y; J Dermatol 1983, V10, P229 CAPLUS
- (18) Jimbo, Y; J Dermatol 1983, V10, P241 CAPLUS
- (19) Kaiho, F; Clin Pharm Bull 1989, V37, P1114 CAPLUS
- (20) Kaneshina, S; Biochim Biophys Acta 1984, V777, P75 CAPLUS
- (21) Katz, J; J Soc Cosmet Chem 1983, V34, P327
- (22) Knutson, K; J Contr Rel 1985, V2, P67 CAPLUS
- (23) Kroll, M; Clin Ther 1989, V11, P382 MEDLINE
- (24) Lashmar, U; J Pharm Pharmacol 1989, V41, P118 CAPLUS
- (25) Nimni, M; Encyclopedia of Human Biology, in press 1997, V2
- (26) Nimni, M; J Pharm Pharmacol 1990, V42, P729 CAPLUS
- (27) Nomura, H; Chem Pharm Bull 1990, V38, P1421 CAPLUS
- (28) Quan, D; Drug Des Del 1990, V6, P61 CAPLUS
- (29) Rabinowitz, J; J Clin Pharmacol 1982, V22, P42 CAPLUS
- (30) Rougier, A; J Invest Dermatol 1987, V88, P577 CAPLUS
- (31) Russell, A; Clin Invest Med 1991, V14, P35 MEDLINE
- (32) Sasaki, H; J Pharm Sci 1991, V80, P533 CAPLUS
- (33) Schneider, H; Br J Clin Pharmacol 1990, V29, P127 MEDLINE
- (34) Smith, E; Percutaneous Penetration Enhancers 1995
- (35) Stoughton, R; Arch Dermatol 1982, V118, P474 CAPLUS
- (36) Takahashi, K; Chem Pharm Bull 1991, V39, P509 CAPLUS
- (37) van Marion, W; J Int Med Res 1973, V1, P151
- (38) Woodford, R; J Toxicol Cutan Toxicol 1986, V5, P167